

REMARKS

Claims 1-11, 14-25, 28 and 30-34 are all the claims pending in the application.

Claim rejections

Claims 14, 28 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fullerton et al. (U.S. Patent No. 6,937,667; hereinafter “Fullerton”) in view of Low et al. (U.S. Publication No. 2002/0190881; hereinafter “Low”). Applicants traverse the rejection for at least the following reasons.

The Examiner asserts that Fullerton allegedly discloses a pulse sequence generator which generates a first UWB pulse sequence and a second UWB pulse sequence in FIG. 17, column 7, lines 35-50, column 15, lines 60-68 and column 23, lines 5-15). However, the Examiner concedes that Fullerton does not disclose that the second pulse has pulse width that is wider than the pulse width of the first UWB pulse sequence by a predetermined degree. Moreover, the Examiner asserts that it would have been obvious to a person of ordinary skill in the art to adjust the width of the pulses as shown by Low in the receiver shown by Fullerton because Low’s technique improves quality and has simple system configuration (page 4 of the Office Action). Applicants respectfully disagree. Applicants respectfully submit that it would not have been obvious to one of ordinary skill in the art to combine the teachings of Fullerton and Low for at least the following.

First, Applicants respectfully submit Fullerton and Low disclose different methods of modulating a UWB signal. For example, Fullerton discloses using flip modulated impulse radio signals. Fullerton discloses a first data state that corresponds to a first impulse signal and a second data state that corresponds to an inverse of the first impulse signal (column 42, lines 51-

56). On the other hand, Low discloses a pulse width modulation scheme in which a bit “0” has a pulse width having an interval of one unit of duration and bit “1” has pulse width having an interval of two units of duration (page 5, paragraph [0058]). Since Fullerton discloses and prefers using a flip modulation technique and Low discloses a pulse width modulation technique, where the two techniques are unique and different from each other, one of ordinary skill in the art would not have been motivated to combine the teachings as asserted by the Examiner.

Furthermore, with regard to the Examiner assertion that “it would have been obvious to a person of ordinary skill in the art to adjust the width of the pulses as shown by Low in the receiver shown by Fullerton because Low’s technique improves quality and has simpler system configuration (paragraph [0062]).” Applicants respectfully disagree with the Examiner’s motivation to combine for at least the following reason.

In paragraph [0062], Low discloses that similar to FIGS. 5 and 6, one symbol can be recovered from each frame, which is an improvement over existing systems that typically require hundreds to thousands of frames to produce a symbol. However, this does not suggest or disclose that the pulse width modulation technique disclosed in Low is an improvement over the flip modulation technique disclosed by Fullerton.

Moreover, there is no suggestion that a simpler system configuration would be provided using the pulse width modulation technique as compared to flip modulation technique. In view of the above, Applicants respectfully submit that the motivation to combine the teachings as asserted by the Examiner is improper.

In view of the above, Applicants respectfully submit that claims 14, 28 and 30 are allowable over the cited reference.

Conclusion

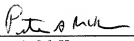
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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